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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,984

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EXAMINER

CHAI, LONGBIT

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,984	<b>Applicant(s)</b> SAITO, TAE	
	<b>Examiner</b> LONGBIT CHAI	<b>Art Unit</b> 2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Priority***

1. Applicant's claim for benefit of foreign priority under 35 U.S.C. 119 (a) – (d) is acknowledged.

The application is filed on 10/16/2006 but is a 371 case of PCT/JP05/07358 application filed on 4/11/2005 and has a foreign priority application filed on 4/14/2004.

### ***Claim Objections***

2. Claim 21 is objected to because of the following informalities: “in this order on one surface” is unclear regarding what exactly is “this order”. Appropriate correction(s) is (are) required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 3, 7, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Schuhmacher et al. (U.S. Patent 2003/0085380).

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As per claim 1, Schuhmacher teaches an authentication medium, characterized by comprising **a multilayer structure in which two light selective reflecting layer are stacked together** (Schuhmacher: Para [0035]: two layers of  $A^1$  and  $A^2$  are stacked together) **with a phase difference layer interleaved therebetween, wherein said two light selective reflecting layers are each formed of a material capable of selectively reflecting either one of left-handed or right-handed circularly polarized light of incident light** (Schuhmacher: Para [0002] and Para [0035]: an interleaved layer B between  $A^1$  and  $A^2$  is designed to be transparent to produce a phase difference depending on the direction of the polarization (either a left-handed or right-handed circularly polarized manner), thereby making a phase difference) **and center wavelengths of light reflected off said two light selective reflecting layers differ from each other** (Schuhmacher: Para [0035] Line 1 – 6: the light reflected off the two light selective reflecting layers may have different wavelengths, if needed, to provide different colors).

As per claim 2, Schuhmacher teaches said phase difference layer is a transparent substrate film (Schuhmacher: Para [0035]: an interleaved layer B between  $A^1$  and  $A^2$  is designed to be transparent to produce a phase difference depending on the direction of the polarization).

As per claim 3, Schuhmacher teaches said phase difference layer is a multilayer structure comprising a transparent film and a nematic liquid crystal layer (Schuhmacher: Para [0002]: at least one interleaved separating layers of B between  $A^1$  and  $A^2$  layers).

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As per claim 7, Schuhmacher teaches an adhesive layer is further stacked on the authentication medium (Schuhmacher: Para [0002] and Para [0035]).

As per claim 9 and 10, Schuhmacher teaches having the authentication medium on a part thereof in a visible way (Schuhmacher: Para [0143]: color effects).

4. Claims 11 and 16 – 18 are rejected under 35 U.S.C. 102(a) as being anticipated by Merck et al. (JP 2003-1618835).

As per claim 11, Merck teaches an authentication medium, characterized in that **at least two layers, or a thin-film layer that changes in transmittance or reflectance upon heating and a color change layer that differs in color depending on an angle of viewing are stacked together** (Merck: Para [0006] Line 5 – 9, Para [0026] Line 13 – 15, Para [0041] and Para [0023] / [0080]).

As per claim 16, Merck teaches a substrate has the authentication medium on a part thereof in a visible way (Merck: Para [0006] Line 5 – 9, Para [0026] Line 13 – 15, Para [0041] and Para [0080]).

As per claim 17, Merck teaches adhesive layer is further stacked on the authentication medium (Merck: Para [0006] Line 5 – 9, Para [0026] Line 13 – 15, Para [0041] and Para [0080]).

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As per claim 18, Merck teaches the authentication medium is stacked on a releasable surface of a releasable substrate (Merck: Para [00023]: a hologram foil is releasable surface of a releasable substrate).

5. Claims 19, 22, 23 and 25 – 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoshino et al. (U.S. Patent 6,061,122).

As per claim 19, Hoshino teaches an authentication medium, characterized in that **a light selective reflecting pattern layer made up of a layer of a material capable of selectively reflecting either one of left-handed or right-handed circularly polarized light of incident light** (Hoshino: Column 8 Line 41 – 46) and **a light diffracting structure layer are stacked together** (Hoshino: Column 8 Line 52 – 59 / Line 35 – 38: a hologram foil serving as an authentication medium *diffracts* the light).

As per claim 22, Hoshino teaches said light diffracting structure layer is a reflection hologram (Hoshino: Column 2 Line 43 – 46: the *reflective* layer of the hologram).

As per claim 23, Hoshino teaches said light diffracting structure layer has a light reflective layer in association therewith (Hoshino: Column 2 Line 34 – 40: the light *reflected* by the reflective layer *diffracts* into various different directions depending on different view angles).

As per claim 25, Hoshino teaches the authentication medium is stacked on a releasable surface of a releasable substrate (Hoshino: Column 8 Line 52 – 59 / Line 35 – 38: a hologram foil is stacked on a releasable surface of a releasable substrate).

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As per claim 26, Hoshino teaches having the authentication medium on a part thereof in a visible way (Hoshino: Column 9 Line 43 – 53, Abstract / Line 13 – 16 and Column 8 Line 52 – 59 / Line 35 – 38).

As per claim 27, Hoshino teaches the authentication medium is stacked on a surface of an information recording medium to be authenticated, or said information recording medium has the authentication medium on a part thereof in a visible way (Hoshino: Column 9 Line 43 – 53, Abstract / Line 13 – 16 and Column 8 Line 52 – 59 / Line 35 – 38).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 – 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuhmacher et al. (U.S. Patent 2003/0085380), in view of Hoshino et al. (U.S. Patent 6,061,122).

As per claim 4, Schuhmacher does not disclose expressly a light diffracting structure layer is stacked on one surface of said multilayer structure.

Hoshino teaches a light diffracting structure layer is stacked on one surface of said multilayer structure (Hoshino: Column 8 Line 52 – 59 / Line 35 – 38: a hologram foil serving as an authentication medium *diffracts* the light which is normally looks substantially transparent).

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Hoshino within the system of Schuhmacher because Hoshino teaches an economical identification system by using a hologram foil serving as an authentication medium to *diffract* the light which is normally looks substantially transparent (Hoshino: Abstract)

As per claim 5, Schuhmacher as modified teaches said light diffracting structure layer is a reflection hologram (Hoshino: Column 8 Line 52 – 59 / Line 35 – 38).

As per claim 6, Schuhmacher as modified teaches said light diffracting structure layer has a light reflective layer in association therewith (Hoshino: Column 8 Line 52 – 59 / Line 35 – 38).

As per claim 8, Schuhmacher as modified teaches the authentication medium is stacked on a releasable surface of a releasable substrate (Hoshino: Column 8 Line 52 – 59 / Line 35 – 38: a hologram foil serving as an authentication medium *diffracts* the light which is a releasable substrate).

7. Claims 12 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merck et al. (JP 2003-1618835), in view of Schuhmacher et al. (U.S. Patent 2003/0085380).

As per claim 12, Merck does not disclose expressly said color change layer is a light selective reflecting layer capable of selectively reflecting either one of left-handed or right-handed circularly polarized light of incident light.



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Schuhmacher teaches said color change layer is a light selective reflecting layer capable of selectively reflecting either one of left-handed or right-handed circularly polarized light of incident light (Schuhmacher: Para [0002], Para [0035] and Para [0143]: an interleaved layer B between  $A^1$  and  $A^2$  is designed to be transparent to produce a phase difference depending on the direction of the polarization (either a left-handed or right-handed circularly polarized manner), thereby making a phase difference).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Schuhmacher within the system of Merck because (a) Merck teaches a security system to check forgery pattern by using an authentication medium having cholesteric layered material (Merck: Para [0080]) and (b) Schuhmacher teaches an improved multilayered cholesteric effect pigments (Schuhmacher: Abstract and Para [0049])

As per claim 13, Merck as modified teaches said light selective reflecting layer comprises a cholesteric liquid crystal layer (Schuhmacher: Para [0002], Para [0035] and Para [0143]).

As per claim 14, Merck as modified teaches said color change layer comprises two or more layers (Schuhmacher: Para [0035] and Para [0143] / [0159]).

As per claim 15, Merck as modified teaches said color change layer comprises two layers, between which there is a phase difference layer interleaved (Schuhmacher: Para [0002] and Para [0035]: an interleaved layer B between  $A^1$  and  $A^2$  is designed to be transparent to produce a phase difference depending on the direction of the polarization (either a left-handed

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or right-handed circularly polarized manner), thereby making a phase difference).

8. Claims 20, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino et al. (U.S. Patent 6,061,122), in view of Schuhmacher et al. (U.S. Patent 2003/0085380).

As per claim 20, Hoshino does not disclose expressly said light selective reflecting pattern layer is stacked on one surface side of a transparent substrate, and said light diffracting structure layer is stacked on another side surface of said transparent substrate.

Schuhmacher teaches said light selective reflecting pattern layer is stacked on one surface side of a transparent substrate, and said light diffracting structure layer is stacked on another side surface of said transparent substrate (Schuhmacher: Para [0002] and Para [0035]: an interleaved layer B between  $A^1$  and  $A^2$  is designed to be transparent (i.e. a transparent substrate / layer) to produce a phase difference depending on the direction of the polarization (either a left-handed or right-handed circularly polarized manner), thereby making a phase difference where  $A^1$  is a light selective reflecting pattern layer stacked on one surface side of a transparent substrate and  $A^2$  is a light diffracting structure layer, as taught by Hoshino, that is stacked on another side surface of said transparent substrate).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Schuhmacher within the system of Merck because (a) Hoshino teaches a security system to check forgery pattern by using an authentication medium by using a cholesteric liquid crystal layered material (Hoshino: Abstract) and (b) Schuhmacher teaches an improved multilayered cholesteric effect pigments that provides an interleaved layer B between  $A^1$  and  $A^2$  is designed to be transparent (i.e. a

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transparent substrate / layer) to produce a phase difference depending on the direction of the polarization (either a left-handed or right-handed circularly polarized manner), thereby making a phase difference (Schuhmacher: Abstract, Para [0050], Para [0002] and Para [0035])

As per claim 21, the claim limitations are met as the same reasons as that set forth above in rejecting claim 20.

As per claim 24, Hoshino as modified teaches authentication medium label, characterized in that an adhesive layer is further stacked on the authentication medium (Schuhmacher: Para [0047] and para [0050]:  $A^1$ , B and  $A^2$  are stacked one on top of the other in uniform thickness with the adhesion of the individual layers).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LONGBIT CHAI whose telephone number is (571)272-3788. The examiner can normally be reached on Monday-Friday 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Longbit Chai/

Primary Examiner, Art Unit 2431  
5/19/2009